



INSTITUTIONAL RESEARCH

HEALTHCARE & BIOTECHNOLOGY

INITIATION REPORT

Member FINRA/SIPC

Toll Free: 866-928-0928 ♦ www.DawsonJames.com ♦ 925 Federal Highway, 6th Floor ♦ Boca Raton, FL 33432

May 31, 2011

Agenus, Inc. (Nasdaq/AGEN)

Buy Advancing Breakthrough Immunotherapies

Decades of expertise make Agenus a leader in the new cancer immunotherapy era

Vernon T. Bernardino
Senior Research Analyst
(212) 551-3601
vbernardino@dawsonjames.com

INVESTMENT HIGHLIGHTS

Initiating Coverage with a Buy Rating and Price Target of \$2 Agenus Inc., formerly Antigenics, is a biotechnology company that utilizes technologies based on heat shock proteins (HSPs) to develop novel therapies for cancer and infectious diseases. With AGEN shares trading at a 41% discount to its peers, we believe the stock represents an attractive investment proposition. We rate the shares a Buy and set a 12-18 month price target of \$2 (comparable group mean EV, dividing by AGEN's EV, and multiplying by the number of AGEN shares outstanding plus a small premium for unrecognized value in the QS-21 adjuvant platform).

G Series Vaccines for Glioma Have Blockbuster Potential As the rationale for evaluating Prophage in glioma is consistent with standard of care and potentially gives an immunotherapy like Prophage time to work, we believe the company's most significant opportunity clearly is with G-200 in patients with recurrent GBM and other high grade gliomas with potential for approval in 2015. With median survival of 44 weeks demonstrated so far in Phase II study, we believe Agenus has potential to realize an opportunity worth more than \$1 BN in peak sales with Prophage in GBM alone.

Commercial Prophage Manufacturing Optimized for a Path to Profitability

As with the manufacture of the prostate cancer vaccine, Provenge, the feasibility of commercial success with manufacturing personalized vaccines previously was also a concern with Oncophage. Agenus, however, has consistently demonstrated the commercial feasibility of the Prophage GMP manufacturing process. With the capacity to expand manufacturing from 10,000 patient courses per year to approximately 200,000 patient courses per year, and COGS eventually expected to be low double digits percent, we believe Agenus positioned to realize a clearer path to profitability than current immunotherapies.

AGEN – A Leader In Advancing Promising Breakthrough Immunotherapies

We believe Agenus' vaccines show potential to emerge as a promising breakthrough in the next generation of immunotherapies targeting cancer. At the core of Agenus' expertise are its broadly applicable platforms, with products from QS-21 Stimulon, its adjuvant platform, expected to be launched in the 2013-2014 timeframe. The shares are near historical low valuations, therefore, we recommend investors consider the attractive long-term proposition with AGEN and buy the shares.

Current Price **\$0.93**

Price Target **\$2.00**

MARKET DATA		05/27/11
Stock Symbol	AGEN	
Market	Nasdaq	
52 Wk Low - High	\$0.73	- \$1.16
Market Cap. (MM)	\$105.4	
Shares Out (MM)	113.4	
3-Month Av. Daily Vol (000s)	429.8	
Insider Ownership	27.6%	
Institutional Ownership	13.7%	

BALANCE SHEET METRICS (03/31/11)	
Cash (MM)	\$16
Debt (MM)	\$34
Debt/Capital	NM
Book Value / Share	NM
Price / Book	NM

EARNINGS DATA			
FY - 12/31	2009A	2010A	2011E
1Q - 03/31	(\$0.05)	(\$0.10)	(\$0.05) A
2Q - 06/30	(\$0.06)	(\$0.05)	(\$0.05) E
3Q - 09/30	(\$0.03)	(\$0.06)	(\$0.06) E
4Q - 12/31	(\$0.05)	(\$0.03)	(\$0.01) E
EPS (fully diluted)	(\$0.39)	(\$0.23)	(\$0.17) E
Revenue (MM)	\$3.3	\$3.2	\$7.4 E

VALUATION METRICS		
Price/Earnings	NM	NM
Price/Revenue	31.6x	32.6x
		14.2x



Source: BigCharts.com, FactSet.

INVESTMENT SUMMARY

Agenus Inc. (Nasdaq: AGEN), formerly Antigenics Inc., is a biotechnology company that utilizes technologies based on heat shock proteins (HSPs) to develop novel vaccines for cancer and infectious diseases. Agenus applied its expertise and decades of research in immunology to develop its broadly applicable platforms: Prophage patient-specific vaccines, off-the-shelf therapeutic vaccines for infectious diseases, and QS-21 Stimulon, an adjuvant platform. Prophage generated Oncophage, the first patient-specific cancer immunotherapy to be approved in a major market, and promising vaccine candidates in other cancers that have significant potential for evaluation in combination with other therapies. By using the comparable group mean EV, dividing by AGEN's EV, and multiplying by the number of AGEN shares outstanding, we derive a value of \$1.57 per share for the immunotherapy franchise. Unlike its peers, Agenus' widely evaluated platform technology, i.e., the QS-21 adjuvant platform, has potential to realize near-term revenues for the company. The first products containing QS-21, for example, are expected to be launched upon their potential approval in the 2013-2014 timeframe. With AGEN shares trading at a 41% discount to its peers and unrecognized value in the QS-21 adjuvant platform, we believe the stock represents an attractive investment proposition. As a result, at current prices we rate the shares a Buy and set a 12-18 month price target of \$2.

KEY POINTS

- **Expertise, Experience, Extensive Product Portfolio and Platforms Make Agenus a Leader in Immunotherapies** With the approval in March 2011 of *Yervoy* (ipilimumab), an antibody-based therapy developed by Bristol-Myers Squibb Co. (BMY, Not Rated), the second cancer immunotherapy in market in the past year, the advent of a new era in cancer immunotherapy is confirmed. We note that Agenus' adjuvant autologous therapeutic vaccine, Oncophage, was the first patient-specific therapeutic cancer immunotherapy approved in a major market (Russia) – the culmination of decades of the company's research in immunology. We believe its internal expertise in immunology, its broadly applicable immunotherapy platform technologies, and extensive portfolio of patient-specific vaccine therapies in the pipeline, make Agenus a leader in advancing promising breakthrough immunotherapies.
- **Agenus' Heat Shock Protein Platform Harnesses the Fingerprint of the Immune Response to Cancer** At the center of Agenus' most advanced vaccine technology platform, Prophage, are heat shock proteins (HSPs), which are the most abundant intracellular proteins in cells. Studies showed that the immunogenicity of tumor derived HSPs results from the association of HSP molecules with tumor-specific antigens, which are peptides that are generated by the degradation of tumor-associated proteins. This approach is generally considered better than the defined-antigen approach, as a defined-antigen vaccine can only work against tumor cells that express that specific antigen, whereas an undefined-antigen approach harnesses the "fingerprint" of the tumor cells, which can be comprised of a mix of mutations and diverse proteins. As a result, Agenus' HSP-based approach chaperones patient-specific antigenic peptides for direct presentation to the immune system, and induces both a cellular (via cytotoxic T cells) and humoral (via helper T cells) immune response against tumor cells. By using autologous (i.e., self) tumor-derived HSP-peptide complexes isolated from an individual patient, Agenus has developed a proprietary technology capable of harnessing a broad immune response and creating personalized therapies for cancer.
- **Post-Hoc Analysis of Results in the Oncophage Phase III Trial Show the Importance of Patient Selection** The first Prophage vaccine evaluated in clinical trials was Oncophage (now referred to as R-100 except in its approved market), which is an adjuvant autologous therapeutic vaccine that was developed for patients with renal cell carcinoma (RCC). Although Agenus announced that in a Phase III trial, Oncophage did not reach statistical significance with its primary endpoint of recurrence-free survival, in post-hoc analysis of the Phase III results, Oncophage showed a statistically significant benefit in RCC patients at intermediate risk of recurrence, demonstrating that cancer immunotherapy must be evaluated for use in the appropriate patient population. In April 2008 the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage in this select RCC patient population. Although it currently results only in modest sales, Oncophage became the first patient-specific therapeutic cancer vaccine approved in a major market.

- **Prophage Safety and Activity Creates Significant Opportunities for Combination with Other Targeted Agents**
The Prophage Series of individualized vaccine therapies, altogether, have been tested in more than 850 patients in eight different types of cancer. Prophage vaccines demonstrate tumor-specific immune responses, including single agent activity in patients with earlier stages of disease. They also have a mechanism of action that is not cell-based, and a safety profile that provides for significant opportunities for evaluation as a therapy in combination with other agents that target late-stage disease. Prophage, therefore, is a cancer immunotherapy technology platform with potential across multiple clinical indications. With the recent approval of Yervoy in metastatic melanoma, Agenus is preparing studies with Prophage for metastatic melanoma (M-200) in combination with Yervoy and other immunomodulatory agents that act against mechanisms used by tumors to evade the immune response and advance to a more deadly stage.
- **G Series Vaccines for Glioma are the Most Significant Near-Term Opportunity with Prophage** As the rationale for evaluating Agenus' G series of Prophage in glioma is consistent with SOC (i.e., disease progression gives time for an immunotherapy like Prophage to work), we believe G-100 has potential in patients with newly diagnosed glioma, however, with data that support G-200's promising activity in patients with recurrent glioma following brain surgery, especially in patients with minimal residual disease at time of first vaccination, we believe the company's most significant near-term opportunity is with G-200 in patients with recurrent GBM and other high grade gliomas with potential for approval in 2015. An estimated 62,930 new cases of primary brain tumors were expected to be diagnosed in 2010. Primary malignant brain tumors grow very rapidly, and despite advances in surgical resection and treatment, median survival of patients is little more than one year (14.6 months) after diagnosis. Long-term remission is possible, but GBM usually reappear and quickly develop resistance to TMZ with a historical survival rate of 61.1% a year after diagnosis, which decreases to 26.5% at two years, and only 20% of patients still alive after three years. As a result, GBM is an unmet medical need and remains one of the cancers under most active study with currently over 600 clinical trials active or completed. With median survival of 44 weeks demonstrated so far in Phase II study, we believe Agenus has potential to realize an opportunity worth more than \$1 BN in peak sales in GBM alone.
- **Feasibility of Commercial Prophage Manufacturing and Rapid Turnaround Demonstrated with Oncophage**
Recall that Dendreon's estimates for the gross margins achievable with the manufacture of Provenge are around 40%, which is low even by the standards for gross margins observed with complex biologic drugs. The feasibility of commercial success with manufacturing personalized vaccines was also previously a concern with Oncophage. After decades of research and experience with manufacturing Oncophage for the Russian market since 2008, Agenus has consistently demonstrated the commercial feasibility of the GMP manufacturing process used to make Prophage vaccines, and optimized the process of turning patient samples into Prophage vaccines in as little as ten days. With the capacity for its Prophage product manufacturing facility capable of expanding from 10,000 patient courses per year to approximately 200,000 patient courses per year, and COGS eventually expected to be low double digits percent, we believe Agenus is positioned to realize a clearer path to profitability than current immunotherapies.
- **AGEN – A Leader in Advanced Immunotherapy Platforms** We believe that the scientific rationale for using an immunotherapy approach in treating cancer is sound, and with future clinical trials likely to be designed to measure appropriate endpoints in appropriate patient populations, we believe Agenus' vaccines show potential to emerge as one of the promising next generation of immunotherapies targeting cancer. We believe the company's G series vaccines in glioma, in particular, poised to be the next cancer vaccines with blockbuster potential. At the core of Agenus' expertise are its broadly applicable platforms, Prophage patient-specific vaccines, off-the-shelf heat shock protein-based therapeutic vaccines for infectious diseases, and QS-21 Stimulon, an adjuvant platform where the first products could be launched in the 2013-2014 timeframe. With the shares near historical low valuations, we therefore recommend investors consider the attractive investment proposition with AGEN and buy the shares.

PRODUCT CANDIDATES

Although the recent approvals of immunotherapies for cancer mark the advent of a new era in treating cancer, we note that Agenus’ adjuvant autologous therapeutic vaccine, Oncophage, was the first patient-specific therapeutic cancer immunotherapy approved in a major market (Russia) – the culmination of decades of the company’s research in immunology. We believe its internal expertise in immunology and extensive portfolio of patient-specific vaccine therapies in the pipeline, make Agenus a leader in advancing promising breakthrough immunotherapies. At the core of this expertise are Agenus’ broadly applicable platforms, Prophage patient-specific vaccines, off-the-shelf heat shock protein-based therapeutic vaccines for infectious diseases, and QS-21 Stimulon, an adjuvant platform where the first products could be launched in the 2013-2014 timeframe, however, all three have generated advanced vaccine candidates.

FIGURE 1: AGENUS, INC. – PRODUCT PORTFOLIO

	LEAD OPTIMIZATION	DISCOVERY	PRE-CLINICAL	PHASE I	PHASE II	PHASE III	BLA / MAA	IN-MARKET	COMMERCIAL RIGHTS
Prophage Immunotherapies									
Oncophage <i>Renal Cell Carcinoma (RCC)</i>								Russia	Agenus
R-100 <i>RCC in the Adjuvant Setting</i>									Agenus
R-200 <i>Metastatic RCC</i>									Agenus
G-200 <i>Recurrent Glioblastoma</i>									Agenus
G-100 <i>Newly Diagnosed Glioma</i>									Agenus
NP-150 <i>Pediatric Brain Tumors</i>									Agenus
M-200 <i>Metastatic Melanoma</i>									Agenus
QS-21 Stimulon Adjuvant Vaccines									
QS-21 <i>Non-Small Cell Lung Cancer</i>									GlaxoSmithKline
QS-21 (MAGE-A3) <i>Melanoma</i>									GlaxoSmithKline
QS-21 <i>Malaria</i>									GlaxoSmithKline
QS-21 <i>Shingles</i>									GlaxoSmithKline
QS-21 <i>Alzheimer’s Disease</i>									Janssen Alzheimer Immunotherapy (fr Elan)
QS-21 <i>Multiple Undisclosed Vaccines</i>									Undisclosed
Off-the-Shelf Vaccines									
HerpV <i>Genital Herpes</i>									Agenus

Source: Company reports

Heat Shock Protein Platform

At the center of Agenus’ most advanced vaccine technology platform, Prophage, are heat shock proteins (HSPs), which are the most abundant intracellular proteins in cells. HSPs have been studied extensively in models of gene regulation as

they are abundant under normal conditions, and become hyper-abundant under stressful conditions such as heat shock. In the 1980s it was observed that HSPs isolated from cancer cells elicited immunity to cancers whereas HSPs isolated from normal tissues did not. Studies showed that the immunogenicity of tumor derived HSPs results from the association of HSP molecules with tumor-specific antigens, which are peptides that are generated by the degradation of tumor-associated proteins. HSPs, therefore, chaperone antigenic peptides for direct presentation to the immune system, and antigen presenting cells (APCs) become loaded with the antigens and, in turn, induce both a cellular (via cytotoxic T cells) and humoral (via helper T cells) immune response against tumor cells. Certain HSPs, HSP glycoprotein 96 (gp96) and heat shock protein 70 (hsp70) among them, have also been shown to stimulate an innate cytokine response as well, thus, HSPs are also useful as immunologic adjuvants. By using autologous (i.e., self) tumor-derived HSP-peptide complexes isolated from an individual patient, Agenus has developed a proprietary technology capable of harnessing a broad immune response and creating personalized therapies for cancer.

Prophage Vaccines

The Prophage Series is an HSP-based platform of individualized vaccine therapies developed by Agenus, which altogether, have been tested in more than 850 patients in eight different types of cancer. Prophage vaccines demonstrate tumor-specific immune responses, including single agent activity in patients with earlier stages of disease. They also have a mechanism of action that is not cell-based, and a safety profile that provides for significant opportunities as a therapy in combination with other agents that target late-stage disease. Prophage, therefore, is a cancer immunotherapy technology platform with potential across multiple clinical indications.

Initial clinical trials of Prophage Series vaccines were aimed at assessing feasibility, safety and preliminary efficacy – select studies also measured immune response. Although a Phase III trial was conducted in advanced renal cell carcinoma, and a non-registration Phase III trial was conducted in metastatic melanoma, most studies were a series of small single-arm trials were performed in various solid tumor types, including colorectal cancer, gastric cancer, pancreatic cancer, and non-small cell lung cancer. A single Phase I trial was also conducted in non-Hodgkin's lymphoma.

R Series Vaccines (Prophage for Renal Cell Carcinoma)

The first Prophage vaccine evaluated in clinical trials was Oncophage (now referred to as R-100 but also known as vitespen and HSPPC-96), which is an adjuvant autologous therapeutic vaccine that was developed for patients with renal cell carcinoma (RCC). Although a positive trend was observed in results from Phase III clinical evaluation with Oncophage, the data was not sufficient to support filing a Biologics License Application (BLA) for the vaccine, which was also given a negative opinion for its Marketing Authorization Application with the European Medicines Agency (EMA). (The following is a brief summary of Oncophage's current status.)

R-100 (Adjuvant Prophage) and R-200 (Prophage for Metastatic RCC) In February 2001 a 650-patient, multicenter, international Phase III trial to evaluate Oncophage in non-metastatic RCC was initiated by Agenus. In March 2006 Agenus announced that the trial did not reach statistical significance with its primary endpoint of recurrence-free survival. In post-hoc analysis of the Phase III results, however, Oncophage showed a statistically significant benefit in the trial in RCC patients at intermediate risk of recurrence. In April 2008 the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage, where it retains its original name instead of R-100, as a treatment for patients at intermediate risk of disease recurrence. Although it currently results only in modest sales, Oncophage, therefore, became the first patient-specific therapeutic cancer vaccine approved in a major market. Agenus continues to study Oncophage with a small study in patients with non-metastatic RCC to assess immune response in the intermediate-risk patient population. Pending additional funds, Agenus intends to conduct additional studies with Oncophage as R-100 in combination with other targeted therapies used in RCC, as well as a large randomized Phase III trial to register R-100 for approval as a treatment for RCC in the U.S., E.U. and other countries. Although R-100 is the most advanced vaccine from the Prophage platform, Agenus also intends to advance R-200 (Prophage for metastatic RCC) in the future in combination with a targeted therapy.

G Series Vaccines (Prophage for Glioma)

It is well known that glioma is an aggressive tumor, and the overall tumor burden is low as it does not metastasize, however, as they grow, gliomas compromise the blood-brain barrier, allowing trafficking of T cells. In brief, the treatment paradigm for glioma is as follows:

- Complete surgical resection is attempted, therefore, residual tumor is limited at the time of vaccination.
- Resected tumor tissue provides sufficient tumor material for vaccine production.
- Newly diagnosed disease is treated with chemotherapy standard of care, *Temodar* (temozolomide or TMZ), which helps slow down disease progression.
- Slower disease progression also may induce regulatory T cell activity.

As a result, the rationale for evaluating the G series of Prophage in glioma is consistent with standard of care, as slowed disease progression gives time for an immunotherapy like Prophage to work and may enhance its activity. With grants from the American Brain Tumor Association and the National Cancer Institute Special Programs of Research Excellence, clinical investigators at the Brain Tumor Research Center at the University of California, San Francisco (UCSF), are conducting clinical trials with Prophage G series vaccines.

G-100 (Newly Diagnosed Glioblastoma) In June 2009 UCSF initiated a small, single-arm Phase II study to evaluate G-100 in combination with TMZ in patients with newly diagnosed glioblastoma multiforme (GBM). The trial is currently enrolling patients, with a target of 50, and based on promising trends to date, was expanded to include up to 10 clinical sites. Positive results with this trial could form the basis for future approval of Prophage G-100 in GBM.

G-200 (Recurrent Glioma) In October 2005 a Phase I/II clinical trial evaluating Prophage G-200 in patients with recurrent, high-grade glioma was initiated by UCSF. The Phase II portion of this study is ongoing, however, in November 2008 Phase I results were presented at the Society for Neuro-Oncology annual meeting which showed that vaccination with G-200 following brain surgery increased median overall survival to approximately 10.5 months, with four patients surviving beyond 12 months, and one patient surviving almost 2.5 years. The study also showed that all 12 treated patients demonstrated a significant immune response after vaccination ($p < 0.001$), and that patients with minimal residual disease at time of first vaccination ($n = 7$) were more likely to survive beyond nine months compared with patients with significant residual disease.

In October 2009 interim Phase II data was presented at the Society for Neuro-Oncology annual meeting which showed that a median survival of 10.1 months was observed in the first 20 patients treated with G-200, and that six patients (30%) had survived ≥ 12 months. The early data showed an improvement in overall survival over historical data (median survival of 6.5 months), and slightly favorable compared to recently reported median survival of 9.2 months with *Avastin* (bevacizumab) in patients with recurrent high-grade glioma. In May 2010 additional data were presented at the International Conference on Brain Tumor Research and Therapy which showed that a median survival of 44 weeks after tumor resection was observed, compared to a historical median of 26 weeks. Approximately 70% of the evaluable patients survived beyond 36 weeks, and 41% survived ≥ 1 year. Additional data from this trial will be reported on Monday, June 6, at the American Society of Clinical Oncology (ASCO) meeting to be held in Chicago, Illinois, June 3-7. As can be seen with the interim data, we believe that the final Phase II data has a high likelihood of demonstrating overall survival of >10 months with G-200 upon completion of study, making it superior to currently available therapies for GBM and meriting further evaluation with Phase III study.

Other Prophage Vaccines

As the Prophage platform has potential application in a broad range of oncology indications, Agenus continues to research new approaches for making Prophage available from all tumors. The company, for example, is making plans to evaluate an NP series of Prophage for pediatric neurological tumors, and an M series of Prophage for melanoma.

NP-150 Evaluating an NP series in pediatric brain tumors was spurred on by the encouraging results in adult glioma. As the amount of tissue may be small, a necessary first step was the recent demonstration of Prophage manufacturing

feasibility from pediatric brain tumors, which the company has completed. Agenus plans to initiate a Phase I study evaluating Prophage NP-150 vaccine in pediatric patients with newly diagnosed and recurrent brain tumors in the future.

M-200 An Oncophage version was previously evaluated in patients with melanoma and demonstrated immunological and anti-tumor responses in Phase II studies, however, the primary endpoint of overall survival was not met in a Phase III trial that evaluated treatment of patients with metastatic melanoma with Oncophage or physician's choice (9.4 months vs. 10.7 months, respectively, two-sided p value = 0.32). Agenus continues to research new approaches for making Prophage available for melanoma in the metastatic setting (M-200). As was seen with results with Oncophage in RCC, statistically significant results may be demonstrated in patients with better prognostic factors (e.g., melanoma Stage M1a and M1b). With the recent approval of Yervoy in metastatic melanoma and its validation that immunomodulatory agents have potential to increase overall survival in late-stage cancers, Agenus is preparing studies with M-200 in combination with Yervoy and other immunomodulatory agents that act against mechanisms used by tumors to evade the immune response and advance to a more deadly stage. These include antibodies in development to programmed cell death 1 receptor (PD-1), which is a negative co-stimulatory molecule that inhibits T cell activation, cytokine production, and cytotoxic functions, antibodies in development to programmed cell death 1 ligand (PDL-1), which inhibits and reduces the proliferation of T cells, as well as other investigational therapies with potential for Prophage M series synergy, such as small molecule inhibitors of histone deacetylase (HDAC) and adenosine inhibitors.

Manufacturing Prophage

Commercial and clinical supplies of Oncophage and other vaccine candidates from the Prophage Series are manufactured at Agenus' manufacturing facility in Lexington, Massachusetts. Agenus estimates that the facility's current capacity for its Prophage products is approximately 10,000 patient courses per year, and expandable to approximately 200,000 patient courses per year. This may be accomplished through a combination of building out currently available space, adding second and third shifts, and automating various functions. The company, on average, takes eight to ten hours of actual processing time to manufacture a patient batch of vaccine. Although we believe that Agenus' technology is applicable to all cancer types, the company's initial focus with the Prophage Series vaccines is on cancers that have limited or no available treatment options and in cancers that typically yield sufficient quantities of tumor tissue from the surgical procedure to allow for feasible manufacture.

Each Prophage Series vaccine candidate is made from a patient's own tumor tissue. After a surgeon removes a patient's tumor, the majority of that tumor tissue is frozen and shipped to Agenus. Using a proprietary manufacturing process that takes approximately eight to ten hours per individual patient lot, Agenus isolates the HSPPCs (heat shock protein glycoprotein 96 peptide complex) from the tumor tissue. Through this isolation process, the HSPPCs are extracted, purified, and sterile-filtered from the tumor tissue, then formulated into solution and packaged in standard single-injection vials. After the performance of quality control testing and sterility testing, Agenus ships the frozen vaccine back to the hospital or clinic for administration. Medical professionals administer the vaccine by injecting the product into the skin.

QS-21 Adjuvant Platform

The success of antitumor and antiviral vaccines often requires the use of an adjuvant, a substance added to a vaccine or other immunotherapy that is intended to enhance the immune response. QS-21, a natural saponin product purified from the South American Molina tree, is a promising and widely used adjuvant.

Agenus' QS-21 Stimulon is an adjuvant that has been evaluated in more than 50 indications, and is a key component in approximately 15 vaccine candidates, including four in Phase III evaluation. The pipeline of product candidates containing QS-21 is extraordinarily diverse, encompassing prophylactic as well as therapeutic vaccines for infectious diseases, multiple cancer types, and Alzheimer's disease. To date, there have been over 40 Phase II clinical trials conducted with QS-21. The key licensees of QS-21 are GlaxoSmithKline plc (GSK, Not Rated), and Janssen Alzheimer Immunotherapy, a subsidiary of Johnson & Johnson (JNJ, Not Rated) that acquired substantially all the assets and rights of the original QS-21 licensee, Elan Corp. (ELN, Not Rated), related to its Alzheimer immunotherapy program.

Agenus does not incur clinical development costs for products that include QS-21, and is generally reimbursed for any related expenses by its licensees. In return for rights to use QS-21, Agenus' licensees agree to pay the company license fees, manufacturing costs, milestone payments, and royalties on product sales for a minimum of ten years after commercial launch. Pending successful results with ongoing Phase III studies, Agenus could begin receiving revenues from QS-21 products in the next few years. The first products containing QS-21, for example, are expected to be launched upon their potential approval in the 2013-2014 timeframe.

MAGE-A3 ASCI GSK has ongoing Phase III studies to evaluate its investigational QS-21-adjuvanted MAGE-A3 Antigen-Specific Cancer Immunotherapeutic (ASCI) in non-small cell lung cancer (initiated October 2007) and melanoma (initiated December 2008). MAGE-A3 is a tumor-specific antigen that is expressed in a large variety of cancers, including melanoma, non-small cell lung cancer (NSCLC), head and neck cancer, and bladder cancer, with no expression in normal cells. In data presented at the 2008 ASCO meeting, results from a randomized, open-label Phase II study with two formulations of MAGE-A3 ASCI in patients with metastatic melanoma suggested a positive trend for clinical response, and showed a desirable immune response, including humoral and cellular responses. The results represented the second confirmation of positive clinical activity for MAGE-A3 ASCI, which was also observed in a separate double-blind, placebo-controlled Phase II study in patients with NSCLC, where a 53% reduction in the relative risk of relapse was observed. The latter study's results were used by GSK to design the ongoing study called MAGRIT, a Phase III safety and efficacy study evaluating its MAGE-A3 ASCI, GSK1572932A, as adjuvant therapy in patients with MAGE-A3 positive NSCLC (Stage IB, II and IIIA) who have undergone complete surgical resection. The MAGRIT study is projected to be completed in 2012-2013 with potential for regulatory approval in 2014. DERMA, the Phase III study evaluating GSK's MAGE-A3 ASCI, GSK2132231A, is also projected to be completed in 2012 with potential for regulatory approval in 2013.

ACC-001 Elan initially evaluated QS-21 as an adjuvant for AN1792, a novel Alzheimer's disease vaccine candidate, whose rights are now owned by Janssen Alzheimer Immunotherapy. AN1792 was based on a peptide constituent of cerebral β -amyloid ($A\beta$) plaques found in patients with Alzheimer's disease, known as $A\beta$ 42. ACC-001, the current vaccine in Phase III evaluation, uses a more defined portion of the $A\beta$ 42 molecule that eliminates epitopes that might stimulate immunoreactive T cells while retaining the portion that stimulates the plaque-clearing activity of antibodies. Multiple Phase II studies are also underway.

HSP Off-the-Shelf Vaccine Platform

By integrating HSPs with antigenic peptides from infectious pathogens, Agenus created an off-the-shelf vaccine platform applicable for the creation of therapeutic vaccines for infectious diseases. The lead vaccine candidate produced with this technology, HerpV (AG-707), is a therapeutic vaccine in development as a treatment for genital herpes. The multivalent vaccine consists of recombinant human hsp70 in complex with multiple distinct antigens from the herpes simplex 2 virus (HSV-2) proteome plus QS-21 Stimulon. In Phase I evaluation, HerpV elicited both CD4 positive and CD8 positive T cell responses, representing proof of concept that HSPs complexed to viral antigens induce an antigen-specific T cell response in humans – a first of its kind finding in the treatment of genital herpes. Recent data show that both of these arms of immunity are needed for successful treatment of genital herpes. Because the vaccine contains multiple antigens derived from HSV-2, HerpV may allow for more accurate immune targeting and surveillance, and thus, may also be applicable to a broad patient population and have potential in managing outbreaks as well as disease transmission. According to the Centers for Disease Control and Prevention (CDC), genital herpes affects more than 60 MM people in the U.S. with an additional 1.5 MM new cases each year. Agenus is currently seeking partners to advance HerpV, as well as its off-the-shelf vaccine platform technology, into further development.

BRIEF OVERVIEW OF CANCER IMMUNOTHERAPY

The role of the immune system in counteracting the development of cancer was initially supported by individual clinical case reports, when it was observed that cancer occurs more frequently in individuals with weakened immune systems. In groundbreaking work in the late 1800s, the surgeon William Coley noted that in trying to fight off a bacterial infection, his patients' immune systems had become highly activated and that this had given them some resistance to the tumor in their bodies. After hundreds of clinical trials conducted to evaluate numerous candidates and decades of research, the approval in April 2010 of Provenge (sipuleucel-t), a dendritic cell-based immunotherapy developed by Dendreon Corp. (DNDN, Not Rated) for prostate cancer, and the approval in March 2011 of Yervoy (ipilimumab), an antibody-based negative regulator of the immune response developed by Bristol-Myers Squibb Co. (BMY, Not Rated) for metastatic melanoma, marked the advent of a new era in cancer immunotherapy.

Immunotherapy Strategies

Tumor cells display a number of proteins on the cell surface that signal to the immune system that these cells are not normal, healthy cells. However, in many cases, the immune system response fails due to strategies that tumor cells use to evade immune detection. These strategies range from methods designed to hide tumor cells, to active incapacitation of immune cells by tumor-produced agents that lower the immune system's responses. Therefore, a successful immunotherapy tries to provoke and train the body's immune system to detect and recognize antigens presented on/in tumor cells and then eliminate them. This can be accomplished using antibodies that target specific immune system-evading mechanisms used by tumor cells, or with vaccines. (For the purpose of brevity we focus only on cancer vaccines in this report.) Based on the types of antigens and method of their presentation used, cancer vaccines can be divided into the following:

- Defined-antigen vaccines – use specific, defined antigens from tumor cells, either alone or together
- Undefined-antigen vaccines – antigens used are not specifically characterized but are believed to be recognizable to the immune system
- Cell-based vaccines – use antigen presenting cells such as dendritic cells pulsed with tumor antigen(s), or tumor-infiltrating T lymphocytes

Defined-Antigen Vaccines The underlying principle of a defined antigen cancer vaccine is that the antigen(s) in the vaccine can lead to specific propagation of T-lymphocytes that can detect and destroy antigen-bearing tumor cells. Some of the defined antigens are cell-type specific, such as those present on B-cells. Others can be specific to a particular tumor type, such as melanoma. Some play active roles in tumor cell growth, while others exist as tumor cell markers. Vaccines can be made of these antigens in the form of peptides, DNA or RNA.

Undefined-Antigen Vaccines Most early undefined-antigen vaccines used whole tumor cells as the source of uncharacterized antigens. The tumor tissue is excised from the patient, inactivated via irradiation, and administered back to the patient, either alone or with immunomodulators or adjuvants. Vaccines made of tumor cells from, and used by, the same patient are termed autologous vaccines. If the source of the tumor cells is from a different patient, the vaccine is termed allogeneic. Modified versions of the whole-cell approach used today include using tumor cell lysate or a particular component of tumor cells or cell lysate. This approach is generally considered better than the defined-antigen approach, as a defined-antigen vaccine can only work against tumor cells that express that specific antigen, whereas an undefined-antigen approach harnesses the "fingerprint" of the tumor cells, which can be comprised of a mix of mutations and diverse proteins. As a result, an undefined-antigen vaccine has potential to activate a host of T-cells that together can attack all of the tumor cells. Agenus' Prophage series of vaccines uses this approach.

Dendritic Cell-Based Vaccines Antigen presentation is a process in the body's immune system by which antigen-presenting cells (APCs), such as macrophages, B-lymphocytes, dendritic cells and other types of cells, process and present antigens on their surfaces to effector cells in the immune system and enable their recognition, thereby inducing an immune response. With dendritic cell-based vaccines, tumor antigens are pulsed to dendritic cells (DCs), which can then actively present the antigens to the immune system. Consequently, the chance of these antigens being recognized by the immune system is improved, and the immune system trained to recognize and attack tumor cells. When the antigens are

derived from the patient's own tumor tissue, as with the process used to create Provenge, a personalized active immunotherapy can be created to further stimulate the immune system. This strategy, however, still relies on a non-specific response, as the immune system may have already failed to mount a response adequate to eliminate the tumor cells, which may have already adapted and are evading immune detection prior to their removal for vaccine creation.

Competitive Landscape

As we've commented previously, we believe several key takeaways were learned from past experience with cancer immunotherapies including:

- Cancer immunotherapy must be used in the appropriate populations. Important factors include patients with low burden disease, early-stage disease, and who have not been heavily pretreated.
- Appropriate clinical trial endpoints must be employed. This was especially evident with Provenge which was approved on overall survival although it showed no effect on progression-free survival and tumor response.
- A patient's immune status can affect their ability to mount an effective response to a vaccine approach. If a patient's immune system is healthier, for example, it could give an immunotherapy time to work, which could lead to longer term tumor control.

Although the immunotherapy approach in our opinion represents a revolutionary cancer treatment modality especially for earlier stage cancer patients, with few exceptions, investigational cancer immunotherapies likely will continue to be initially evaluated in advanced-stage patients, as most cancer therapies have significant side effects and it is only ethical to subject a willing, advanced-stage patient to an unknown and possibly toxic new therapy. However, we are strong believers of the vaccine approach to treating cancer, as many of the therapies above that use this strategy are demonstrating very promising improvements in survival and duration of response less toxicity. We therefore believe the list of investigational immunotherapies below encompasses the next candidate that will win regulatory approval.

FIGURE 2: AGENUS, INC. – SELECT ADVANCED-STAGE AND IN-MARKET IMMUNOTHERAPIES

Company	Product	Stage	Indication(s)
Agenus Inc.	Oncophage (vitespen)	Approved April 2008	Renal cell carcinoma (Russia only)
Dendreon Corp.	Provenge (sipuleucel-t)	Approved April 2010	Prostate cancer
Bristol Myers-Squibb Co.	Yervoy (ipilimumab)	Approved March 2011	Melanoma, Others (Phase III)
Oncothyreon/Merck KGaA	Stimuvax	Phase III	Non-small cell lung cancer (NSCLC)
Biovest International Inc.	BiovaXID	Phase III	Non-Hodgkins Lymphoma (NHL)
GlaxoSmithKline plc	MAGE A3	Phase III	NSCLC, melanoma
Vical Inc.	Allovectin-7	Phase III	Melanoma
Bavarian Nordic A/S	Prostvac	Phase III	Prostate cancer
New Link Genetics Corp.	HyperAcute	Phase III	Pancreatic cancer
Prima BioMed Ltd.	Cvac	Phase III	Ovarian cancer
Celldex Therapeutics Inc.	Rindopepimut (CDX-110)	Phase IIb	Glioblastoma
Agenus Inc.	Prophage	Phase II	Glioma, Renal cell carcinoma, melanoma
Geron Corp.	GRNVAC1	Phase II	Acute myelogenous leukemia
TVAX Biomedical	TVI-Brain-1	Phase II	Recurrent glioma
Immatics Biotechnologies GmbH	IMA901	Phase II	Renal cell carcinoma, Colorectal cancer
Oxford Biomedica plc	TroVax	Phase II	Prostate cancer
Argos Therapeutics, Inc.	Arcelis (AGS-003)	Phase II	Renal cell carcinoma
ImmunoCellular Therapeutics, Inc.	ICT-107	Phase II	Glioblastoma

Source: DJSI research

In addition to monoclonal antibodies and vaccines, other immunomodulatory strategies used to target cancer include small molecule inhibitors of various components of cell proliferation and signaling, and apoptosis. For the purpose of brevity in this report, we focused only on immunotherapies.

PROPHAGE FOR GLIOMA MARKET MODEL

Based on an incidence rate of 18.7 per 100,000 persons, an estimated 62,930 new cases of primary brain tumors were expected to be diagnosed in 2010. Gliomas, a broad term that includes all brain tumors arising from glial cells, which are supportive tissue in the brain that among other things function like glue, represent 39% of all brain tumors and 81% of all malignant tumors. Primary malignant brain tumors grow very rapidly, and almost 40% of malignant tumors are graded the most aggressive type, WHO Grade IV astrocytoma or glioblastoma multiforme (GBM). Despite advances in surgical resection and treatment, median survival of patients with GBM is little more than one year (14.6 months) after diagnosis. Long-term remission is possible, but GBM usually reappear and quickly develop resistance to TMZ with a historical survival rate of 61.1% a year after diagnosis, which decreases to 26.5% at two years, and only 20% of patients still alive after three years. As a result, GBM is an unmet medical need and remains one of the cancers under most active study with currently over 600 clinical trials active or completed.

As the rationale for evaluating Agenus' G series of Prophage in glioma is consistent with SOC (i.e., disease progression gives an immunotherapy like Prophage time to work), we believe G-100 has potential in patients with newly diagnosed glioma, however, with data that support G-200's promising activity in patients with recurrent glioma following brain surgery, especially in patients with minimal residual disease at time of first vaccination, we believe the company's most promising near-term opportunity is with G-200, or Prophage in patients with recurrent GBM and other high grade gliomas.

FIGURE 3: AGENUS, INC. – REVENUE MODEL OF PROPHAGE IN GLIOMA

	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E
Primary Brain Cancer, U.S.									
Incidence	62,930	63,358	63,789	64,223	64,659	65,099	65,542	65,987	66,436
Newly-Diagnosed Glioma Patients	24,543	24,710	24,878	25,047	25,217	25,389	25,561	25,735	25,910
Recurrent High-Grade Glioma Patients	12,517	12,602	12,688	12,774	12,861	12,948	13,036	13,125	13,214
Penetration									
Newly-Diagnosed Glioma Patients (G-100)	0%	0%	0%	0%	0%	0%	0%	3%	7%
Recurrent High-Grade Glioma Patients (G-200)	0%	0%	0%	0%	0%	11%	19%	32%	44%
Patient Numbers									
Newly-Diagnosed Glioma Patients	-	-	-	-	-	0	0	772	1,814
Recurrent High-Grade Glioma Patients	-	-	-	-	-	1,424	2,438	4,172	5,755
Potential Number of Glioma Patients on Prophage	-	-	-	-	-	1,424	2,438	4,944	7,569
Price per Vaccination	-	-	-	-	-	\$5,000	\$5,000	\$5,000	\$5,000
Prophage Sales in Glioma, U.S. (000s)	-	-	-	-	\$0	\$170,916	\$292,533	\$547,011	\$799,428
Primary Brain Cancer, Ex-U.S.									
Incidence	188,790	190,074	191,366	192,668	193,978	195,297	196,625	197,962	199,308
Newly-Diagnosed Glioma Patients	63,406	63,837	64,271	64,708	65,148	65,591	66,037	66,486	66,938
Recurrent High-Grade Glioma Patients	32,337	32,557	32,778	33,001	33,226	33,451	33,679	33,908	34,139
Penetration									
Newly-Diagnosed Glioma Patients (G-100)	0%	0%	0%	0%	0%	0%	0%	4%	17%
Recurrent High-Grade Glioma Patients (G-200)	0%	0%	0%	0%	0%	0%	0%	8%	11%
Patient Numbers									
Newly-Diagnosed Glioma Patients	-	-	-	-	-	-	-	2,460	11,380
Recurrent High-Grade Glioma Patients	-	-	-	-	-	-	-	2,713	3,755
Potential Number of Glioma Patients on Prophage	-	-	-	-	-	-	-	5,173	15,135
Price per Vaccination	-	-	-	-	-	-	-	\$5,000	\$5,000
Prophage Sales in Glioma, Ex-U.S. (000s)	-	-	-	-	-	-	\$0	\$457,957	\$1,590,854
Total Prophage Sales in Glioma (000s)	-	-	-	-	\$0	\$170,916	\$292,533	\$1,004,967	\$2,390,283

¹High-grade glioma is defined as glioblastoma multiforme (WHO Grade IV astrocytoma), anaplastic astrocytoma, high-grade oligodendroglioma.

²Ex-U.S. includes only Europe and Japan.

Source: Central Brain Tumor Registry of the U.S. (CBTRUS), company reports and DJSI research.

As with Provenge in prostate cancer, the FDA approval of Prophage has potential to drive a paradigm change in the future treatment of GBM. We believe G-200 and G-100 could become blockbuster therapies, and anticipate potential approval of G-200 in 2015 for recurrent GBM in our model. We believe a price that would promote wide adoption of Prophage could be \$5,000 for a single injection, as we believe G-200 will demonstrate safety and a survival benefit in a controlled, Phase III trial versus SOC alone, which our research found can reach >\$500,000, versus currently available therapies. With median survival of 44 weeks demonstrated so far in the UCSF Phase II study, we believe each patient with recurrent GBM could require an average of \$115K in Prophage therapy, thus, Agenus has potential to realize an opportunity worth

more than \$1 BN in peak sales in GBM alone. We believe our model in line with current immunotherapies as a course of Provenge therapy (three doses administered at approximately 2-week intervals) costs \$93K per patient versus initial estimates of \$50K, and a full course of Yervoy therapy (four doses administered over three months) costs \$120K.

EXECUTIVE LEADERSHIP

Garo Armen, Ph.D., Chairman and Chief Executive Officer Dr. Armen co-founded Agenus with Pramod Srivastava in 1994. From 2002 through 2004, Dr. Armen was Chairman of the Board of Directors for Elan Corporation plc. Dr. Armen is also Founder and President of the Children of Armenia Fund, a charitable organization established in 2000 that is dedicated to the positive development and education of the youth of Armenia.

Shalini Sharp, Chief Financial Officer Ms. Sharp joined Agenus in 2003. Prior to joining the company, she was director of strategic planning at Elan Corporation plc, where Ms. Sharp served as chief of staff to the chairman of the board during the restructuring process and drove to completion a number of strategic corporate and financial transactions. Ms. Sharp was previously a management consultant at McKinsey & Company, specializing in pharmaceuticals and medical devices. Ms. Sharp received her B.A. and M.B.A. from Harvard University.

Christine M. Klaskin, Ph.D., M.P.H., Vice President, Finance, and Principal Accounting Officer Since joining Agenus in 1996 as Finance Manager, Ms. Klaskin has held various positions within the finance department and has been involved in all of Agenus' equity and debt offerings including the company's IPO. Prior to joining Agenus, Ms. Klaskin was an audit manager at Arthur Andersen. Ms. Klaskin received her Bachelor of Accountancy degree from George Washington University.

Karen H. Valentine, General Counsel, Secretary, and Chief Compliance Officer Prior to joining Agenus in 2004, Ms. Valentine was an associate at the biotechnology practice of Palmer & Dodge LLP (now Edwards, Angell, Palmer & Dodge LLP). While at the law firm, Ms. Valentine provided corporate law service to a broad range of public and private corporations, and developed expertise in the areas of licensing and strategic collaborations. Ms. Valentine graduated cum laude with a Bachelor's degree in neuroscience from Colgate University. She received her law degree, magna cum laude, from Boston University School of Law.

Kerry A. Wentworth, Vice President, Clinical, Regulatory and Quality Before joining Agenus in 2005, Ms. Wentworth served as Senior Director of Regulatory Affairs at Genelabs Technologies, where she was responsible for the company's regulatory and quality functions. At Genelabs Ms. Wentworth focused on the late-stage development and subsequent U.S. and European commercial application filings for the company's lead product, Prestara. Prior to Genelabs, Ms. Wentworth held various positions in regulatory affairs at Shaman Pharmaceuticals and Genzyme Corp. Ms. Wentworth received her B.S. degree in pre-veterinary medicine from the University of New Hampshire.

INTELLECTUAL PROPERTY

Agenus fully owns strong intellectual property surrounding its key technologies and product candidates. The IP portfolio includes exclusive rights to 73 issued patents and four pending patent applications in the U.S., and 117 issued foreign patents and 29 pending foreign patent applications. Vaccine patents and applications include certain heat shock protein core technology for the treatment of cancer and infectious diseases, method of use and manufacturing processes, and saponin adjuvants.

The issued patents that cover Prophage vaccines expire at various dates between 2015 and 2024. The issued patents that cover HerpV expire at various dates between 2014 and 2017. The company's patent covering QS-21 expired in most territories in 2008, however, additional patent protection in combination with other agents is covered by patents that expire between 2016 and 2019.

VALUATION

Biotech companies that focus on immunotherapeutics such as vaccines for cancer currently trade at a mean enterprise value (EV) of \$209 MM (see Figure 4), which is more than 1.7 times the current \$124 MM EV of Agenus.

FIGURE 4: AGENUS, INC. – COMPARABLE COMPANIES FOCUSED ON IMMUNOTHERAPY

Company	Ticker	Price	SOS ¹	Mkt. Cap. (\$ MM)	Cash ²		Debt ³		Enterprise Value	
		5/27/11			Total	/Share	Total	/Share	Total	/Share
BIOVEST INTERNATIONAL, INC.	BVTI	\$0.58	140	81	3	\$0.02	32	\$0.23	110	0.79
CELLEX THERAPEUTICS, INC.	CLDX	\$3.76	33	122	44	\$1.36	15	\$0.46	93	2.86
CEL-SCI CORP.	CVM	\$0.60	207	124	21	\$0.10	1	\$0.01	104	0.50
GERON CORP.	GERN	\$4.45	129	574	163	\$1.27	0	\$0.00	411	3.18
IMMUNOCELLULAR THERAPEUTICS, INC.	IMUC	\$1.84	29	53	11	\$0.37	0	\$0.00	43	1.47
MICROMET, INC.	MITI	\$6.49	91	592	221	\$2.42	1	\$0.01	371	4.07
ONCOTHYREON, INC.	ONTY	\$6.43	42	267	72	\$1.73	0	\$0.01	196	4.71
VICAL, INC.	VICL	\$3.91	72	280	52	\$0.73	0	\$0.00	228	3.18
YM BIOSCIENCES, INC.	YMI	\$3.61	111	401	76	\$0.68	0	\$0.00	325	2.93
Median				267	52	\$0.73	0	\$0.01	196	\$2.93
Mean				277	74	\$0.96	5	\$0.08	209	\$2.63
AGENUS, INC.	AGEN	\$0.93	113	105	16	\$0.14	34	\$0.00	124	\$1.09

All numbers are in \$ millions except per share data. EV = enterprise value

¹Shares outstanding (SOS) as of most recent reported quarter adjusted for effects of recent financing activities.

²As of most recent reported 10-Q or 8-K filing.

AGEN Percent of Mean **-62%**

AGEN Percent of Mean **-41%**

Comparable EV Multiple (Mean/AGEN) 1.7

Target Price (comparable EV divided by AGEN shares out) **\$1.57**

Source: Company reports, FactSet and DJSI research.

By using the comparable group mean EV, dividing by AGEN's EV, and multiplying by the number of AGEN shares outstanding, we derive a value of \$1.57 per share for the immunotherapy franchise. Unlike its peers, however, Agenus has a widely evaluated platform technology, i.e., the QS-21 adjuvant platform, with potential to realize near-term revenues for the company. The first products containing QS-21, for example, are expected to be launched upon their potential approval in the 2013-2014 timeframe. With AGEN shares trading at a 41% discount to its peers and unrecognized value in the QS-21 adjuvant platform, we believe the stock represents an attractive investment proposition. As a result, at current prices we rate the shares a Buy and set a 12-18 month price target of \$2.

FINANCIAL OUTLOOK

We tentatively include potential revenues beginning in 2015 from Prophage G-200 in our model only. As a result, we do not project Agenus will record any near-term incremental revenues that could be material to the valuation of the shares. We believe Agenus has a promising portfolio of cancer vaccine product candidates in its pipeline, however, due to their early-stage nature, we do not anticipate potential revenue contributions from them until they advance further into development. With the potential for the first products containing Agenus QS-21 Stimulon adjuvant to be launched upon their potential approval in the 2013-2014 timeframe, we also include moderate milestone revenues near-term and royalties on sales of QS-21 products beginning in 2014.

We estimate R&D expenses will primarily be driven by development costs for Agenus' Prophage product candidates, in particular, the G Series, which we anticipate could enter Phase III testing in late 2011. We anticipate R&D and G&A expenses will accelerate in 2011 onward with the advancement of the company's other Prophage product candidates, progresses and costs significantly begin to consume cash reserves. We have modeled financing activities in the years, 2011–2015, to coincide with the demonstration of value-creating clinical milestone results and favorable market conditions.

We project Agenus will record a loss of \$19.3 MM or (\$0.17) per share in 2011. Agenus has not provided guidance regarding its operating expenses, therefore, our estimates use the best available information only. With \$15.6 MM in cash, we project the company will need to raise cash by year-end 2011. Based on our revenue and expense projections, we estimate Agenus will not become profitable for some time, but may potentially realize the company's first quarter of profitability in 2014, driven by revenues from QS-21. As the company intends to out-license development of its HerpV immunotherapy and QS-21, as well as its earlier stage Prophage vaccines, we view additional partnerships and revenues, potentially in 2011 onward, as upside to our projections.

FIGURE 5: AGENUS, INC. – KEY MILESTONES

Date	Milestone
2Q11	Announce new data from Prophage G-200 Phase II trial in patients with recurrent glioma
3Q11	Initiate Phase I study with Prophage NP-150 in pediatric brain tumors
3Q11	Publication of HerpV Phase I data
2011	Initiate discussions with the FDA on an accelerated regulatory pathway for Prophage in glioma
2011	Initiate combination trials with other Prophage series vaccines
2011	Potential QS-21 data announcements
2012	Announce data from Prophage G-100 Phase II trial in patients with newly diagnosed glioma
2012	Potential initiation of Phase III trial to evaluate Prophage G-200 in patients with recurrent glioma

Source: Company reports

INVESTMENT RISKS

The key risks are:

- **Development Risk** Although Prophage previously has demonstrated promising results in intermediate-risk RCC, there is no guarantee that it will be successful in future and ongoing clinical trials in other cancers. Further, with more than 1,000 clinical studies ongoing in glioma, there is moderate risk in delay with further advancement of Prophage in glioma. There is currently significant interest in evaluating Avastin (bevacizumab), an anti-angiogenic therapy marketed by Roche Holdings SA (RHHBY, Not Rated) that received accelerated approval for GBM in 2009, thus, enrollment in future trials with Prophage in high-grade gliomas could face hurdles.
- **Regulatory Risk** We also acknowledge our model may be aggressive with its timeline as it assumes that positive results from the ongoing Phase II evaluation of Prophage will be promising and merit further evaluation with Phase III testing. We have also noted above that immunotherapies previously evaluated have met with a negative regulatory fate. We believe, however, that sub-analysis of patient populations in the Oncophage Phase III clinical trial design incorporates lessons from prior failures that can be used to design robust clinical studies with Prophage. Additionally, we believe the approval of Provenge paved a path for the regulatory process and the bar (i.e., improved survival) for the future evaluation of investigational immunotherapies such as Prophage.
- **Commercialization Risk** Given the company's only prior experience with commercialization of Oncophage is in Russia, we believe collaborating with an experienced partner would help mitigate commercialization risk.
- **Financial Risk** Based on our analysis of the historical costs of mid-stage clinical trials, we anticipate the cost to conduct the planned third Phase III trial with Prophage ranges from \$25MM to \$35 MM. As by our estimates, Agenus currently has cash reserves adequate to finance operating burn only through year-end 2011, we believe the company needs to conduct successful financing activities every year through 2015 in order to fund operations and achieve value-creating clinical milestones.
- **Market Risk** Agenus shares are offered by the NASD, however, in March 2011 the company received a letter from the Nasdaq that the company was not in compliance with the minimum "Bid Price Requirement", as the common stock has closed below the minimum \$1.00 per share requirement for 30 consecutive trading days, and therefore, is at risk for potential delisting. The company has 180 days, or until August 30, 2011 to regain compliance, after which, the company may be eligible for an additional 180 days to regain compliance with the Bid Price Requirement, assuming Agenus continues to meet the Nasdaq's initial listing requirements.

FIGURE 6: AGENUS, INC. – QUARTERLY INCOME STATEMENT

Income Statement (\$MMs)											
Fiscal Year Ends December 31											
	2009A	1QA	2QA	3QA	4QA	2010A	1QA	2QE	3QE	4QE	2011E
Product Revenues	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
Oncophage (Renal Cell Carcinoma)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prophage G-200 (Recurrent Glioma)	-	-	-	-	-	-	-	-	-	-	-
Prophage G-100 (Newly Diagnosed Glioma)	-	-	-	-	-	-	-	-	-	-	-
Prophage NP-150 (Pediatric Neurologic Tumors)	-	-	-	-	-	-	-	-	-	-	-
QS-21 Stimulon Adjuvant	-	-	-	-	-	-	-	-	-	-	-
Total Revenue	\$ 3.3	\$ 0.9	\$ 0.8	\$ 0.6	\$ 1.0	\$ 3.4	\$ 0.7	\$ 0.6	\$ 0.4	\$ 5.7	\$ 7.4
Milestone and Collaborative Revenue	-	-	-	-	-	-	-	-	-	5.0	5.0
Licensing, Royalties and Other Revenue	3.3	0.9	0.8	0.6	1.0	3.3	0.7	0.6	0.4	0.7	2.4
Cost of Goods Sold	-	-	0.1	0.1	-	0.1	-	-	-	-	-
Gross Profit	3.3	0.9	0.7	0.6	1.0	3.2	0.7	0.6	0.4	5.7	7.4
R&D Expenses	16.9	4.6	2.6	2.8	2.8	12.9	2.8	3.1	3.1	3.3	12.3
G&A Expenses	14.1	3.6	2.8	2.6	3.2	12.1	2.9	3.0	3.1	3.1	12.0
Total Operating Expenses	31.0	8.2	5.4	5.4	6.0	25.0	5.7	6.1	6.2	6.4	24.3
Income (Loss) from Operations	(27.7)	(7.3)	(4.6)	(4.9)	(5.0)	(21.8)	(5.0)	(5.5)	(5.7)	(0.6)	(16.9)
Other Income (Expense), net	(2.6)	(1.6)	0.3	(0.8)	2.5	(0.2)	(0.9)	0.0	(0.7)	0.0	(1.6)
Net Income (Loss), B4 Taxes	(30.3)	(8.8)	(4.3)	(5.7)	(2.4)	(21.9)	(6.0)	(5.5)	(6.4)	(0.6)	(18.5)
Dividends on Series A Convertible Preferred Stock	(0.8)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)
Income Tax Expense (Benefit)	-	-	-	-	-	-	-	-	-	-	-
Net Income (Loss)	(31.1)	(9.0)	(4.5)	(5.9)	(2.6)	(22.7)	(6.2)	(5.7)	(6.6)	(0.8)	(19.3)
EPS, Fully Diluted	(\$0.39)	(\$0.10)	(\$0.05)	(\$0.06)	(\$0.03)	(\$0.23)	(\$0.05)	(\$0.05)	(\$0.06)	(\$0.01)	(\$0.17)
Wt. Avg. Shares Outstanding, Diluted	79.0	91.0	95.8	99.1	100.8	96.7	112.9	115.8	120.1	125.2	118.5

All figures in millions except, per share numbers

Source: Company Reports, DJSI Research.

FIGURE 7: AGENUS, INC. – ANNUAL INCOME STATEMENT

Income Statement (\$MMs)							
Fiscal Year Ends December 31							
	2009A	2010A	2011E	2012E	2013E	2014E	2015E
Product Revenues	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 317.2
Oncophage (Renal Cell Carcinoma)	0.0	0.0	0.0	0.1	0.3	0.8	2.4
Prophage G-200 (Recurrent Glioma)	-	-	-	-	-	-	170.9
Prophage G-100 (Newly Diagnosed Glioma)	-	-	-	-	-	-	-
Prophage NP-150 (Pediatric Neurologic Tumors)	-	-	-	-	-	-	-
QS-21 Stimulon Adjuvant	-	-	-	-	-	85.5	146.3
Total Revenue	\$ 3.3	\$ 3.4	\$ 7.4	\$ 10.0	\$ 17.3	\$ 29.1	\$ 369.4
Milestone and Collaborative Revenue	-	-	5.0	5.0	10.0	10.0	10.0
Licensing, Royalties and Other Revenue	3.3	3.3	2.4	5.0	7.3	19.1	42.3
Cost of Goods Sold	-	0.1	-	-	-	-	42.7
Gross Profit	3.3	3.2	7.4	10.0	17.3	29.1	326.7
R&D Expenses	16.9	12.9	12.3	20.3	29.4	36.8	50.8
G&A Expenses	14.1	12.1	12.0	17.7	22.5	26.3	31.8
Total Operating Expenses	31.0	25.0	24.3	38.0	51.9	63.1	82.6
Income (Loss) from Operations	(27.7)	(21.8)	(16.9)	(28.0)	(34.6)	(34.0)	244.2
Other Income (Expense), net	(2.6)	(0.2)	(1.6)	1.4	1.4	(1.6)	(1.4)
Net Income (Loss), B4 Taxes	(30.3)	(21.9)	(18.5)	(26.5)	(33.2)	(35.6)	242.7
Dividends on Series A Convertible Preferred Stock	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)
Income Tax Expense (Benefit)	-	-	-	-	-	-	-
Net Income (Loss)	(31.1)	(22.7)	(19.3)	(27.3)	(34.0)	(36.4)	241.9
EPS, Fully Diluted	(\$0.39)	(\$0.23)	(\$0.17)	(\$0.21)	(\$0.23)	(\$0.22)	\$1.39
Wt. Avg. Shares Outstanding, Diluted	79.0	96.7	118.5	133.1	150.2	168.7	174.5

All figures in millions except, per share numbers

Source: Company Reports, DJSI Research.

IMPORTANT DISCLOSURES:

Price Chart



Price target and ratings changes over the past 3 years:

Initiated – May 31, 2011 – Target \$2.00

Analyst Certification: The analyst(s) whose name appears on this research report certifies that 1) all of the views expressed in this report accurately reflect his personal views about any and all of the subject securities or issuers discussed; and 2) no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst in this research report; and 3) All Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.

Dawson James has not received investment banking compensation from the companies mentioned in this report in the past 12 months but may actively seek compensation for investment banking services in the future. Dawson James does not make a market in this security. Neither the research analyst whose name appears on this report nor any member of his household is an officer, director or advisory board member of the company. Dawson James did not receive any other compensation from the company in the previous 12 months. The Firm and/or its directors and employees may own securities of the company(s) in this report and may increase or decrease holdings in the future, but the Firm as a whole does not beneficially own 1% or more of any class of common equity securities of the subject company.

Ratings definitions: **1) Buy:** the stock is expected to appreciate and produce a total return of at least 20% over the next 12-18 months; **2) Neutral:** the stock is fairly valued for the next 12-18 months; and **3) Sell:** the stock is expected to decline at least 20% over the next 12-18 months and should be sold.

	Company Coverage		Investment Banking	
Ratings Distribution	# of Companies	% of Total	# of Companies	% of Totals
Buy	22	85%	8	31%
Neutral	4	15%	3	75%
Sell	0	0%	0	0%
Total	26	100%	11	42%

Information about valuation methods and risks can be found in the “VALUATION” and “RISKS” sections of this report.

DAWSON JAMES SECURITIES, INC., Member SIPC, FINRA, (the "Firm") does not make a market in these securities. The Firm may perform or seek to perform investment banking services for these companies in the future. Analysts receive no direct compensation in connection with the firm's investment banking business. All Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report. The Firm, its officers, directors, analysts or employees may affect transactions in and have long or short positions in the securities (or options or warrants with respect thereto) mentioned herein. Although the statements of fact in this report have been obtained from and are based upon recognized statistical services, issuer reports or communications, or other sources that the Firm believes to be reliable, we cannot guarantee their accuracy. All opinions and estimates included in this report constitute the analyst's judgment as of the date of this report and are subject to change without notice. The Firm may effect transactions as principal or agent in the securities mentioned herein. The securities discussed or recommended in this report may be unsuitable for investors depending on their specific investment objectives and financial position. This report is offered for informational purposes only, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such would be prohibited. Additional information is available upon request.